

REMARKS

The Office Action mailed January 25, 2001 has been carefully reviewed and considered. A request for a three-month extension of time is submitted herewith to extend the deadline for filing this response to July 25, 2001. In response to the Office Action, claims 1, 8, 9, 12, 13 and 15 have been amended. The claims now pending are claims 1-16, with claims 17-27 withdrawn from consideration based on Applicants' response to a restriction requirement. Insofar as any of the present rejections may be maintained with respect to the pending claims, reconsideration and withdrawal are respectfully requested.

Applicants note that at page 2 of the Office Action, the Examiner cited to Toshimitsu et al. (U.S. Patent No. 5,471,104). However, Form PTO-892 included with the Office Action lists Toshimitsu et al. as U.S. Patent No. 5,471,014 which is, in fact, a patent issued to Green directed to insulated electrical conductors containing free-flowing mica. Applicants respectfully request correction of this citation to refer to the proper patent number used in the rejection.

At page 2 of the Office Action, the Examiner has rejected claims 1-12 under 35 U.S.C. §103(a) as being unpatentable over Toshimitsu et al. in view of Weilbach et al. Further, at page 4 of the Office Action, the Examiner has rejected claims 13-16 under 35 U.S.C. §103(a) as being unpatentable over Toshimitsu et al. in view of Weilbach et al. and Yashiro. In response to these rejections, Applicants have amended each independent claim, namely claims 1, 9, 13 and 15, to recite armature coils which are arranged about a peripheral surface of the fixed surface to rotate the rotary shaft.

Thus, the motor (10) of the amended independent claims includes a non-contact bearing (30) and armature coils (31) arranged about a peripheral surface of a fixed surface (29), or fixed tube, to rotate a rotary shaft (13). The armature coils (31) are disclosed and described on page

11, lines 2-20 of the Specification and shown in Figures 1 and 2 attached thereto. The armature coils (31) are located on the peripheral surface of the fixed surface (29) and surround a field magnet (26), which extends axially about the rotary shaft (13). This reduces the axial dimension of the motor and makes rotation of the rotary shaft (13) stable and smooth.

Toshimitsu et al. disclose a drum motor for a videocassette recorder. The drum motor includes a rotary shaft 5, a rotary cylinder 17, a fixed sleeve 4, and axial bearings 28, 38. An inner surface 4a of the rotary cylinder 17 and an outer surface 1 of the fixed sleeve 4 form a radial bearing as shown in Figure 3. However, a stator unit 14 is secured to the inner peripheral surface of a motor casing 13 in an opposing relation to a rotor magnet 6, as described at column 12, lines 24-26 and shown in Figure 1. The stator unit 14 is not arranged on a peripheral surface of the fixed sleeve 4.

Weilbach et al. disclose a gas-supported bearing including a rotary shaft 46 having an outer surface 48, a fixed sleeve 40 having an inner surface 44, an axial bearing 52, 54, 56. As shown in Figure 3, a drive means (motor 58) for rotating the rotary shaft 46 includes a rotational permanent magnet 60 fixed to the rotational shaft 46 and field windings 62 coupled to a housing 64. However, the motor 58 is axially displaced from the fixed sleeve 40 and the motor 58 is not arranged on a peripheral surface of the fixed sleeve. Yashiro also fails to teach such feature.

Applicants respectfully assert that the teachings of Toshimitsu et al., Weilbach et al. and Yashiro, alone or in combination, fail to teach armature coils arranged about a peripheral surface of the fixed surface to rotate the rotary shaft as recited in each independent claim. Therefore, it is believed these devices fail to achieve a reduced axial dimension of the motor and stable and smooth rotation of the rotary shaft as accomplished by Applicants' recited invention. Therefore, it is believed independent claims 1, 9, 13 and 15 are patentable over the cited references.

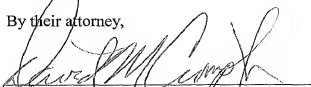
Claims 2-8, 10-12, 14 and 16 each depend from one of the above-discussed independent claims and include the recited amended limitations. For the above-stated reasons, it is believed these dependent claims are patentable over the cited references and, further, are patentable based on additional recited limitations. Further, dependent claims 8 and 12 have been specifically amended to recite that the case has a slit for cooling the bearing, the rotary member and the fixed surface. None of the cited references teach a slit positioned for such function.

Reexamination and reconsideration are respectfully requested. It is respectfully submitted that all pending claims, namely claims 1-16, are now in condition for allowance, issuance of a Notice of Allowance in due course is requested. If a telephone conference might be of assistance, please contact the undersigned attorney at (612) 677-9050.

Respectfully submitted,

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By their attorney,



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